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Sports Injury Prevention and Treatment Among Massachusetts High School Interscholastic Athletic Programs: A Status Report

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Massachusetts Sports Injury Prevention Task Force
Massachusetts Department of Public Health

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THE STATUS OF SPORTS INJURY PREVENTION AND TREATMENT AMONG MASSACHUSETTS HIGH SCHOOL INTERSCHOLASTIC ATHLETIC PROGRAMS

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EXECUTIVE SUMMARY

Recognizing that many sports injuries occur among the 155,000 high school athletes who compete in interscholastic athletics in Massachusetts, the Massachusetts Department of Public Health (MDPH) convened a Task Force in 1987 to provide leadership in the prevention of sports-related injuries. As a first step, the Task Force assessed the status of injury prevention within the high school athletic programs in Massachusetts. In 1987, all public and private high school athletic directors were sent a questionnaire, to which 70 percent responded. The data were collected and analyzed by the Massachusetts Statewide Comprehensive Injury Prevention Program (SCIPP) at the MDPH.

The Task Force has carefully reviewed the survey data and identified a number of concerns which are listed below. From these concerns, the Task Force has made specific recommendations (also listed below) targeted toward the high school athletic programs to improve injury prevention in interscholastic athletics.

AREAS OF CONCERN	RECOMMENDATION
1. There is 99.6 percent compliance with pre-participation physical examinations.	1. 100 percent compliance with pre-participation physicals as mandated by the Massachusetts Interscholastic Athletic Association (MIAA).
2. There is no minimum standard for pre-participation physical examinations used statewide.	2. Utilization of the MIAA Sports Medical Questionnaire and Health Examination Form as the minimum examination.
3. Not all individuals performing pre-participation physical examinations are physicians.	3. Pre-participation physical examinations be performed by qualified physicians, who preferably have training in Sports Medicine.

4. Not all schools use an appropriate level of transportation for athletes with potential major trauma.	4. The MIAA Sports Medicine Committee expand upon their recommendation regarding transport of injured students to provide specific guidelines for appropriate transport of various injuries.
5. Not all schools require a written medical release before return to play after a significant injury.	5. The MIAA Return to Athletic Participation Form is recommended. All athletes must receive a medical release from a physician subsequent to a significant injury, prior to further participation.
6. Not all coaches have immediate access to first aid kits.	6. All coaches have ready access to a basic first aid kit at all practice and competition sites.
7. Not all teams have ready access to fluid replacement.	7. Fluid replacement be immediately accessible to every student athlete at all practice and competition sites.
8. There is not total compliance with regulations about protective gear.	8. Schools must comply with protective gear regulations during all practices and competitions.
9. Not all schools maintain injury records.	9. All school systems collect data on sports-related injuries.
10. There is no system in place in all schools to monitor and evaluate data about injuries in interscholastic sports.	10. Data on sports-related injuries be analzyed and evaluated for the purpose of monitoring trends and patterns. This system will provide the school personnel with information that will allow them to identify risk factors for sports injuries.
11. Not all schools set minimum standards outlining responsibilities and tasks for physicians, athletic trainers, nurses, and coaches in order to prevent injuries.	11. Each school system must set minimum standards outlining responsibilities and tasks that are geared toward ensuring prevention of sports injuries.
12. Not all individuals acting as athletic trainers are licensed by the Commonwealth of Massachusetts.	12. All individuals acting as athletic trainers must be licensed by the Commonwealth of Massachusetts.
13. Not all schools perceive injury prevention as a high priority.	13. All schools must recognize injury prevention as a high priority.

14. There is a recognized need for continuing coaching education.	14. The needs for continuing education of coaches be addressed by the Coaches Educational Subcommittee of the Massachusetts Sports Injury Prevention Task Force.
15. There are barriers, including time constraints, funding, lack of educational programs and lack of qualified instructors, to coaches receiving continuing education.	15. Barriers to coaches receiving education be addressed by the Coaches Educational Subcommittee of the Massachusetts Sports Injury Prevention Task Force.

These recommendations provide a set of objectives toward which school athletic programs should target their sports program development. However, the responsibility for injury prevention cannot rest solely on any one individual. It must be shared by the community-including superintendents, school committees, school administrators, athletic directors and trainers, coaches, teachers, students and parents.

Two major challenges common to most injury prevention programs, and which may also apply in the area of sports injury prevention, are that key decision makers and the general public may be unaware of the magnitude of the injury problem, and there is a lack of timely, high-quality data on injuries. Addressing these inter-related challenges will require time, perseverance, commitment and cooperation by individuals and agencies.

While many schools have made much progress in protecting their student athletes from injury, there are still gaps in and noncompliance with established policies, programs and services which leave some students unnecessarily vulnerable to injury. Having defined several of these gaps through this survey, we now have the opportunity to make further improvement in Massachusetts interscholastic athletic programs.

I. INTRODUCTION

The Magnitude of the Problem

While the number of children who are killed or disabled in amateur competitive sports is relatively small, it is estimated that each year two million children participating in youth sports are injured, 600,000 of whom require emergency room treatment.[1] The U.S. Consumer Product Safety Commission estimates that among children ages 5 to 14 in 1988 there were 111,696 injuries from organized athletic activities and 96,534 injuries from unorganized athletic activities occurring at schools which were treated in emergency rooms.[2] Additionally, approximately 3 to 11 percent of children in recreational activities, organized youth leagues, and interscholastic sports programs are injured while participating in sports.[3]

The National Athletic Trainers Association (NATA) has projected that annually some 1.3 million injuries will occur in high school interscholastic sports. One in six student athletes will suffer an injury requiring them to miss at least the remainder of the day the injury occurred. Ten percent or 130,000 of interscholastic athletic injuries will prevent an athlete from participating in sports for at least 21 days.[4]

Approximately 155,000 high school athletes compete annually in almost 90,000 athletic contests among the 353 Massachusetts Interscholastic Athletic Association (MIAA) member high schools.[5] Although there is no universal system for injury surveillance, it is projected that up to 49,000 (or 30%) of these athletes will miss a practice or game each year due to injuries.[6]

Coaches, parents and physicians generally agree that there are more injuries today in young athletes, which is due, in part, to the greater numbers of children participating in sports and the intense, repetitive training programs in which they engage.[7] However, sports injuries are

largely preventable and unnecessary. Successful prevention strategies do exist, and fall into three broad categories--environmental (i.e., using breakaway bases for baseball and softball); behavioral (i.e., proper conditioning); and regulatory (i.e., mandating a pre-participation physical examination).

Although safety guidelines and recommendations exist for many sports, compliance is generally voluntary. Injury prevention requires a solid commitment on the part of the school system and its coaches, athletic directors, athletic trainers, teachers, students and parents.

The Massachusetts Sports Injury Prevention Task Force

A special study of injuries among Massachusetts children and adolescents ages 0-19, conducted from 1979-1982 by the MDPH, indicated that annually, 17 percent of all injuries appearing at hospitals were sports related. The direct cost of medical care for hospital treatment for these injuries was estimated to be $12.8 million in 1982.

Recognizing the magnitude and seriousness of the problem, as well as its preventability, the Massachusetts Department of Public Health's Statewide Comprehensive Injury Prevention Program convened a Task Force in 1987 to provide leadership and advocacy in promoting the prevention of sports-related injuries to Massachusetts adolescents. The Task Force serves to facilitate communication and disseminate information to groups, organizations and individuals working to prevent sports injuries (See Appendix A for membership).

The Task Force has met at least quarterly since its inception. In 1988, the Task Force produced the Resource Directory for Adolescent Sports Injury Prevention and distributed it to all Massachusetts high school athletic directors. Members have participated in annual meetings of professional organizations, as well as a number of other conferences and activities, representing the Task Force.

The Massachusetts High School Athletic Program Survey

During its first year, the Task Force identified the need to assess the status of the health and injury prevention aspects of high school athletic programs in Massachusetts. Members felt that a better understanding of current health and injury prevention practices would be a first step toward prevention of these injuries. To gain this information, the Task Force developed a survey which was sent to athletic directors at 351 high schools in Massachusetts in October, 1987. (See Appendix B for survey.) The overall response rate was 70 percent, with 72 percent (215/297) of public schools and 57 percent (31/54) of private schools responding. The results of the survey reflect the attitudes and perceptions of the athletic directors providing the information. See Appendix C for Methodology.

This report provides an overview of the status of sports injury prevention and treatment among Massachusetts high school interscholastic athletic programs, as reported by athletic directors. Included in this report are areas of concern which are based on survey data, and formulated by Task Force members. In addition, the Task Force has also provided broad recommendations to address the issues of concern.

II. FINDINGS

The survey addressed eight major aspects of high school athletic programs, including: (a) criteria for athletic participation; (b) emergency response; (c) documentation of sports injuries; (d) training needs of school athletic personnel; (e) perceptions about injury prevention activities; (f) athletic equipment; (g) organization and structure; and (h) insurance coverage. The findings have been organized under these topics.

A. Criteria for Participation

Massachusetts law mandates that all schools require a physical examination in order for a student to participate in interscholastic sports. Through the survey, we identified one school that did not comply with this requirement (Q1). Although only one school was in noncompliance, this means that all those students who participate in that school's athletic program may be at increased risk for a sports injury (See Appendix B for survey questions).

Documentation of the pre-participation physical exams varied. The Massachusetts Interscholastic Athletic Association's (MIAA) form was used by 46 percent of the schools (Q2). Of the remaining 54 percent, half developed their own form or adapted the MIAA form to meet their own requirements and the rest accepted a physician's note or form.

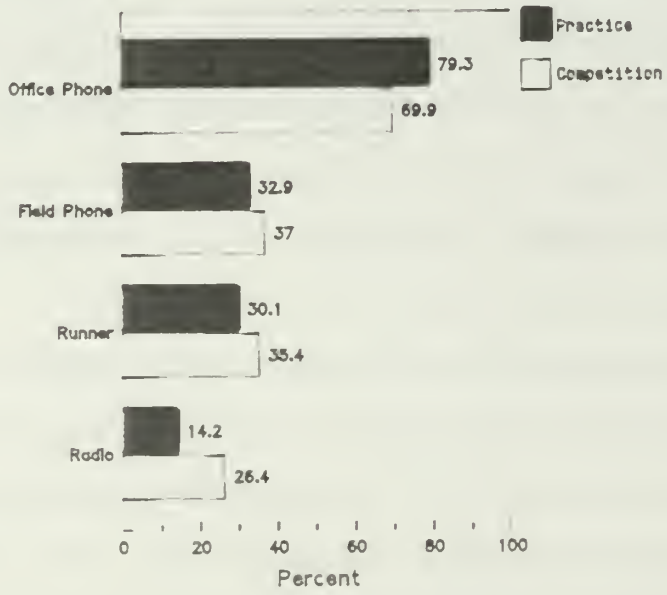
Physicians performed the majority of pre-participation physical examinations: 77 percent of the schools had a school physician or local doctor on contract to perform exams, and 67 percent of schools also accept a private doctor's examination as permission to participate (Q3). Additionally, sixteen schools reported that a school nurse or physician assistant was also used for pre-participation exams, three schools also used a local clinic, and two schools also used an athletic trainer.

Some 23 percent (56) of the schools reported that a physical exam or screening is required at other times during the sports season (Q4). Roughly half of the exams were performed after an injury. Two of these schools stated that a second physical is routine for football; one school for wrestling; and ten schools reported additional physicals were required for certain grade levels or as part of a regular school health protocol. One school stated that an exam is performed post-injury if advised by a physician, but it is not routine.

B. Emergency Response

Schools relied on several methods to call for emergency medical care. The athletic office phone was the most common method used for getting emergency medical help: however, the office phone was used 79 percent of the time during practices as compared to 70 percent of the time during competitions (Q6). (See Figure 1.) Conversely, field phones were used more often during

Fig. 1 – Calling for Medical Care*



* More than one response was possible.

Source: Question 6, Massachusetts Sports Injury Prevention Task Force High School Scholastic Athletic Program Survey, October 1987.

competitions than practices (37% vs. 33%). Student or coach runners and radios were also commonly used in athletic emergencies; however, radios were used more during competitions (26%), and runners were used more during practices (35%).

Eleven schools reported that their athletic trainers were also available to coaches to call for emergency medical help. Two schools reported having ambulance call boxes located at athletic activity sites and 13 schools specified an emergency medical technician (EMT), ambulance or doctor as medical help available during home games.

Two survey questions addressed the issue of transporting athletes after either a major or minor injury (Q8 & 9). Two case scenarios were presented and respondents were asked to identify the method they would use routinely to transport the injured player. One case involved a basketball player who was

Fig. 2 - Transportation After Injury

	Minor (%)	Major (%)
Ambulance	45.1	88.9
Parents (Notify)	20.5	1.6
Coach's Car	13.5	2.4
Trainer's Car	7.0	—
Police	2.9	2.0
Athlete's Friend	2.0	0.4
Other	9.0	4.7
	100.0	100.0

Source: Questions 8 and 9, Massachusetts Sports Injury Prevention Task Force High School Scholastic Athletic Program Survey, October 1987.

knocked unconscious temporarily and displayed some disorientation and dizziness; the other was a soccer player with a minor ankle injury requiring an x-ray to assure that there was no fracture. In both situations an ambulance was identified as the most frequent method of transport (See Figure 2). In the case of the major injury, 89 percent would use an ambulance or ambulance and other means to transport the athlete, two percent would use the coach's car, and two percent would use the police. To transport the player receiving a minor injury, 45 percent of the schools would use an ambulance, 23 percent would wait to transport the student until the parent could be reached, and 16 percent would transport the athlete in the trainer or coach's car.

Fig. 3 Return to Play After Injury*

	Minor Injury		Major Injury	
	Practice (%)	Competition (%)	Practice (%)	Competition (%)
Physician's Note	39.4	39.4	84.7	84.2
Physician's Verbal OK	28.4	28.4	26.1	26.1
Athlete's Verbal OK	23.9	20.0	0.5	0.5
Parental Note	21.9	17.4	8.4	7.9
Coach's Decision	21.3	20.0	2.0	2.0
Nurse's Decision	20.6	22.6	2.7	2.7
Parental Verbal OK	11.0	11.0	3.4	3.0
Athlete's OK (Parnt)	7.1	6.5	—	—
MIAA Return Form	5.2	3.9	9.4	9.4

* More than one response was possible.

Source: Questions 10 & 11, Massachusetts Sports Injury Prevention Task Force High School Scholastic Athletic Program Survey, October 1987.

Two similar case scenarios were used to determine school policies regarding permission to return to play: a minor finger injury incurred during volleyball and a major knee injury to a football player (Q10 & 11). Policies for return to play varied by type of injury, but not by level of play (practice or competition) (See Figure 3). For a major knee injury that required surgery, 85 percent of the schools would require a physician's note. Twenty-six percent would accept a physician's verbal consent. Parental permission was also indicated as acceptable by three percent (verbal) and eight percent (written). Permission by the coach or a nurse was accepted by two and three percent of the schools, respectively. Nine percent of schools reported using the MIAA "return to participation" form and six schools (2%) specified athletic trainer's permission as other acceptable criteria.

Thirty-nine percent stated that a physician's note and twenty-eight percent of physicians verbal okay was required for return to play after a minor injury. For approximately 20 percent each an athlete's verbal confirmation, an athletic trainer's okay, a parental note or a nurse's permission were also acceptable.

C. Documentation of Sports Injuries

Nearly all the public schools (199/215) and nearly three-fourths of the private schools (23/31) maintained injury records (93% vs. 74%) (Q15). Although most schools maintained injury records, only 42 percent reported that these records (93) were used in evaluating sports injuries (Q17). Twenty-eight percent of the schools that maintained records (93) reported that the information was used for general, seasonal or yearly review, or to identify trends in injuries (29%); thirteen percent for evaluation by doctors or trainers; and ten percent for targeting rehabilitation and prevention of reinjury (Q16). One school stated that the "numbers are used to determine vulnerable joints, stretching programs and changes in coaches' approach to practices."

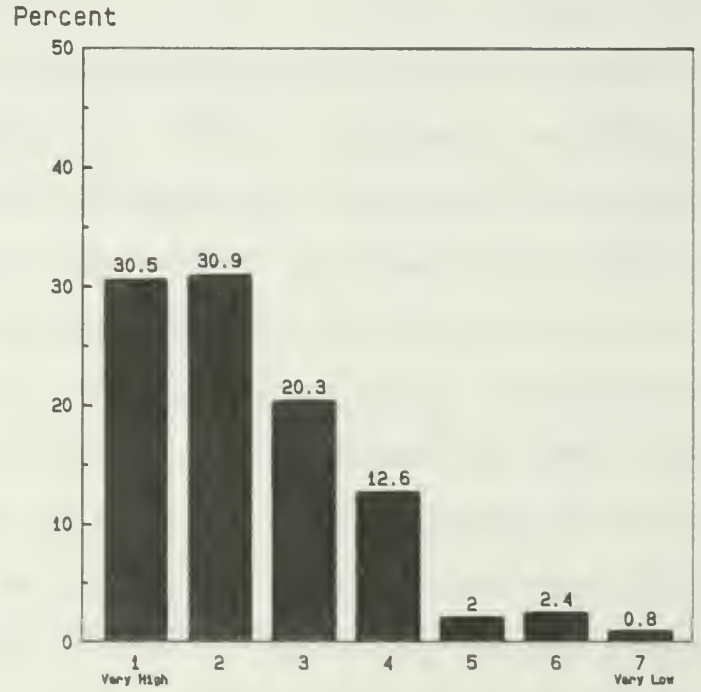
The person responsible for maintaining injury records varied: athletic trainer (32%), school nurse (29%), or the athletic director (26%). For public schools it was more often the nurse (31%) and for private schools the athletic directors who maintained the records (52%).

Schools requiring additional physical examinations during the sports season were more likely to maintain athletic injury records (98%) than schools with no such policy (88%) and to use the records for evaluation of injuries (53%). Having athletic trainers also improved the likelihood that schools would maintain and review athletic records. Schools with athletic trainers were nearly two times as likely to evaluate their records (62% vs. 32%) as schools with no athletic trainer.

D. Perceptions About Injury Prevention

In a series of three questions, athletic directors were asked to indicate and rank (from 1=very great/high to 7=very little/low) their perceptions regarding the relative importance of the prevention of sports injuries

Fig. 4 - Priority Given to Prevention



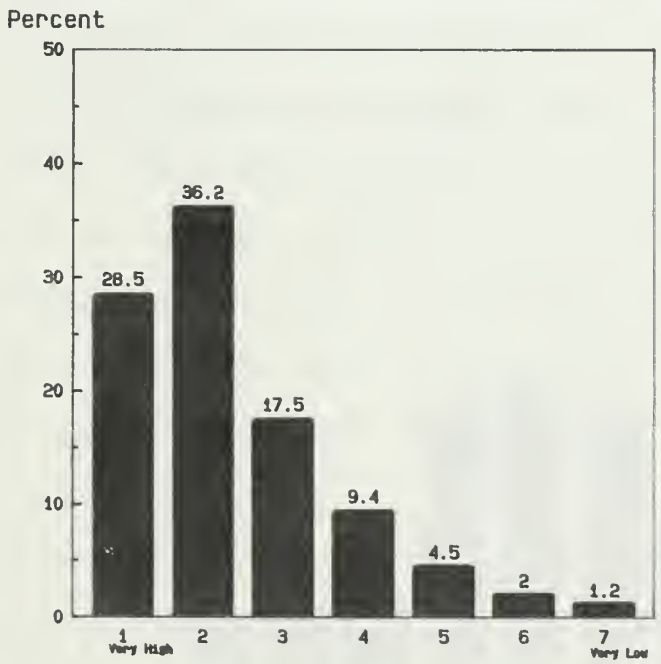
Source: Question 12, Massachusetts Sports Injury Prevention Task Force High School Scholastic Athletic Program Survey, October 1987

(See Figures 4-6). Injury prevention was rated as a considerable priority (1,2, and 3) by 82 percent of all schools (Q 12) (See Figure 4). Nearly one-third perceived injury prevention as a very high priority (1) and half as a high priority (2 and 3). Two schools believed injury prevention had very low priority (7) in their sports programs.

Prevention received a considerable priority (1, 2 and 3) in 94 percent of schools with an athletic trainer as compared to 75 percent of schools with no athletic trainer. Prevention was also rated as a considerable priority for 91 percent of schools evaluating their records, as compared with 77 percent of schools not evaluating their records.

Emphasis was placed on minimizing the occurrence of sports-related injury for 82 percent (1,2 and 3) of schools as compared to other objectives of their athletic programs (29% very high) (Q13) (See Figure 5). One percent reported that

Fig. 5 - Emphasis on Minimizing Injuries

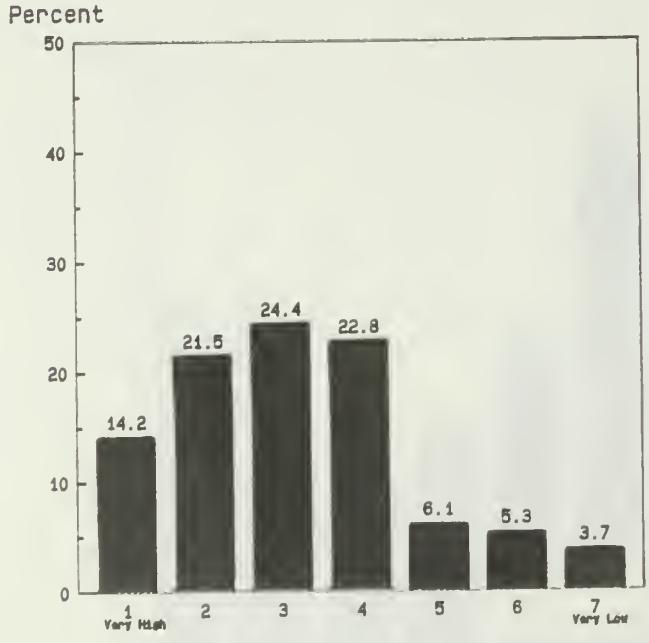


Source: Question 13, Massachusetts Sports Injury Prevention Task Force High School Scholastic Athletic Program Survey, October 1987

they placed a very low degree (7) of emphasis on preventing injuries, 7 percent a low degree (5 and 6), and 9 percent felt the emphasis was neither high nor low (4) in comparison to other objectives of the school's athletic program. A greater percentage of schools evaluating injury data placed a considerable degree of emphasis on minimizing the occurrence of injuries than schools not evaluating injury data (92% vs. 78%).

Sixty percent of respondents felt considerable emphasis (1,2 and 3) was placed on returning an athlete to active team play after an injury, and 14 percent felt the emphasis was very high (1) (Q14) (See Figure 6). Eleven percent believed such emphasis overall was low (5 and 6), four percent very low (7), and about one-fifth felt the emphasis was moderate (4). Schools with athletic trainers were more likely to report that the emphasis on returningathletes to active team play after injury was considerable as compared to schools with no athletic trainer (77% vs. 54%).

Fig. 6 - Emphasis on Returning Athletes to Play After an Injury



Source: Question 14, Massachusetts Sports Injury Prevention Task Force, High School Scholastic Athletic Program Survey, October 1987

E. Athletic Equipment

With the exception of five schools, coaches had immediate access to a first aid kit whenever they were actively involved with their teams (Q18). All schools had basic supplies consisting of bandages, tape, sterile dressings, scissors, etc., while fewer schools were equipped with bite block and airway tubes (32%), splints for fracture immobilization (30%), cervical collars for neck immobilization (11%) and blankets for shock treatment (8%) (Q19). Chemical cold packs were preferred to ice in plastic bags (30% vs. 17% of the schools) as the method of cold therapy, and for 52 percent of the schools both were used (Q20).

Water bottles (82%), coolers and/or cups (82%) and water fountains (59%) were the most readily available fluid replacement for athletic teams (Q22). Electrolyte fluid replacement was available to teams at 41 percent of the high schools. Ten schools (4%) reported that not all teams had ready access to fluid replacement.

Most schools have some type of rehabilitation equipment available on the premises, and three reported they subcontracted with local sports medicine clinics or physical therapists who provide a complete array of rehabilitative services (Q21). Eighteen schools (7%) reported they had no such equipment available to their athletic programs. Typical pieces of equipment at schools were taping tables (78%), whirlpools (76%), refrigerators (61%), ice machines (45%), and hydrocollator units (39%) (See Figure 7). Ten percent of schools specified free weights and universal weight machines as other rehabilitative equipment available to athletic programs.

Use of protective equipment is required by the MIAA in the sports of football, hockey, field hockey, basketball, softball and wrestling during interscholastic athletic competition. However, it is unclear from survey data whether or not schools require mouthguards or face and eye protection during practices (Q28 & Q29). Mouthguards were required more often than face and eye

Fig. 7 - Rehabilitation Equipment Available to Athletic Programs*

	(%)
Taping Tables	77.8
Whirlpool	76.2
Refrigerator	60.6
Ice Machine	44.7
Hydrocollator Unit	38.6
Spine Board with Straps	35.0
Stationary Bicycle	34.6
Ultrasound Unit	5.7
Orthotron	4.1
Electric Muscle Stimulator	3.3
Fitron/ Ergometer	2.8

* More than one response was possible.

Source: Question 21, Massachusetts Sports Injury Prevention Task Force High School Scholastic Athletic Program Survey, October 1987

protection. Such protective gear was more often required for football, hockey and lacrosse players than for basketball, baseball and soccer players. Other schools stated that mouthguards were "recommended" in all contact sports, and face and eye protection were being considered for baseball.

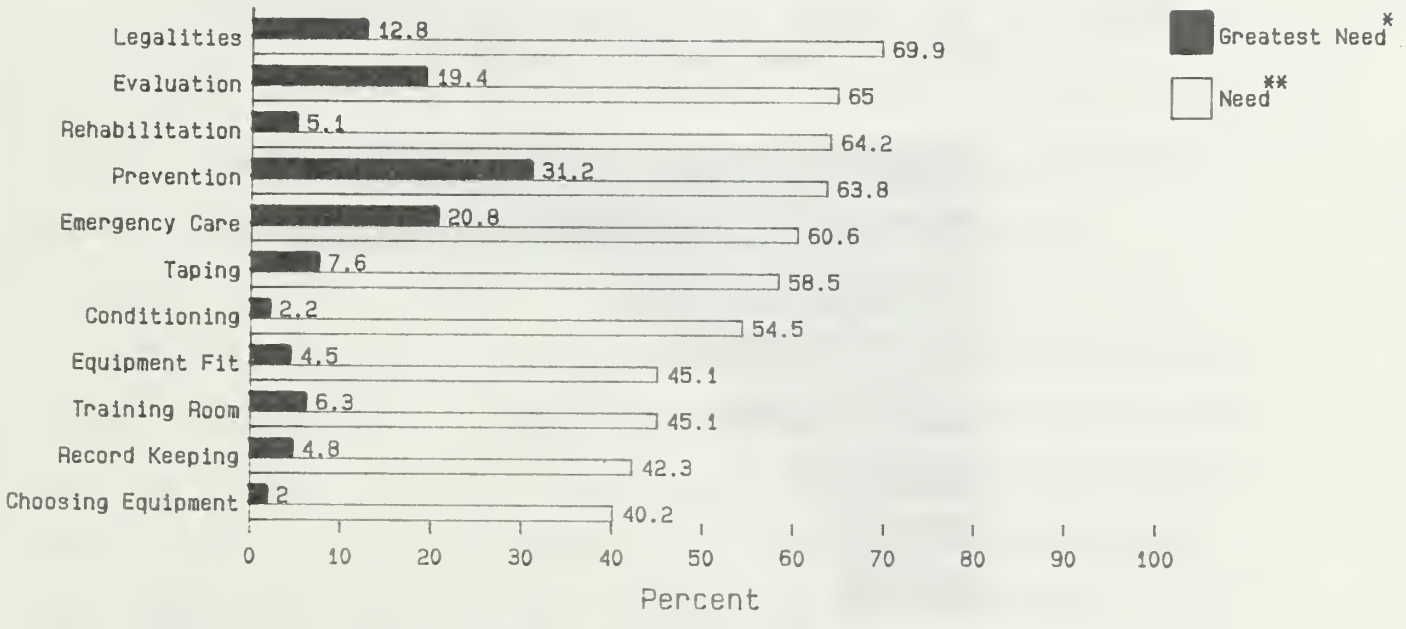
F. Educational Needs for Sports Injury Prevention and Treatment

Respondents were asked to choose and rank from a list of eleven possibilities the information and skills they believed their athletic personnel need (Q30). The five top information and skills areas needed by athletic personnel were listed as: knowledge of legal issues regarding care for an athlete (70%), recognizing/evaluating athletic injuries (65%), basic principles of injury rehabilitation (64%), basic principles of injury prevention (64%), and emergency preparedness/caring for athletic injuries (61%). (See Figure 8). In prioritizing these needs, injury prevention,

emergency preparedness and evaluating injuries were considered most critical: knowledge about the basic principles of injury prevention was ranked as the number one need by 31 percent of the schools, emergency preparedness and caring for injured athletes was ranked number one by 21 percent, and recognizing and evaluating injuries was ranked as number one by 19 percent.

Although all schools had similar educational needs, schools with athletic trainers reported more often that knowledge of legal issues, evaluating injuries, and proper strength training and conditioning were skills their staff needed. In contrast, schools with no athletic trainers reported more often that basic principles of injury prevention and rehabilitation skills were needed by their staff.

Fig 8 - Educational Needs for Athletic Health Care Staff



* Percent listing as #1 greatest need.
** More than one response was possible.

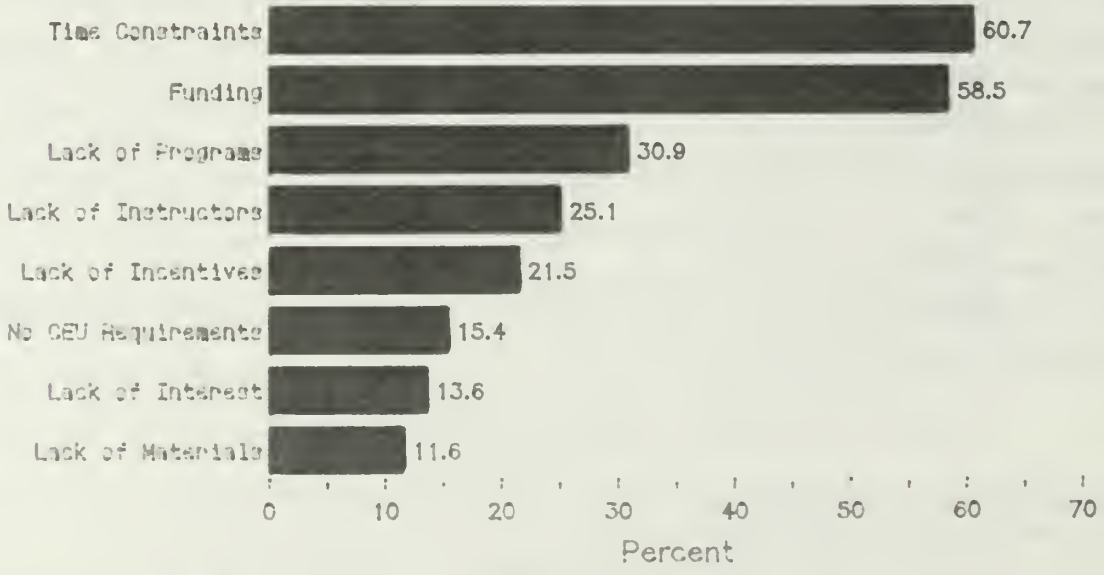
Source: Question 30, Massachusetts Sports Injury Task Force High School Scholastic Athletic Program Survey, October 1987

Respondents were also asked about barriers which might prevent their staff from obtaining the knowledge they needed (Q31). The top barriers cited were time constraints (61%), funding (59%), general lack of educational programs (31%), and lack of qualified instructors (25%) (See Figure 9). Four schools (2%) stated that their athletic trainers had the skills outlined in the survey, and nine percent believed there were no barriers preventing their staff from obtaining the knowledge and skills they needed.

Some schools specifically cited the lack of athletic trainers, a coaching staff that constantly changes, coaches with no physical education background, and lack of interest by the school committee and superintendent of schools as major obstacles. One respondent wrote that the "lack of coaches familiar with their sports is a major problem" and that "finding coaches with extensive first aid

Fig. 9 – Barriers to Obtaining Education*

Reflects Needs Identified in Fig. 8



* More than one response was possible.

Source: Question 31, Massachusetts Sports Injury Prevention Task Force High School Scholastic Athletic Program Survey, October 1987

training is even more difficult." According to another athletic director, "trainers do an outstanding job" and what is needed is "to educate school administrators and (school) committees on (the) need and importance of athletic trainers."

Schools with athletic trainers reported fewer barriers to obtaining the skills their staff needed than schools with no athletic trainers: funding (44% vs. 69%), lack of educational programs (21% vs. 37%), lack of qualified instructors (18% vs. 30%) and lack of incentives (17% vs. 25%). More than twice as many schools with athletic trainers as with no athletic trainers reported that there were no barriers facing their staff (16% vs. 6%).

Public schools more often than private schools rated recognizing and evaluating injuries as information needed by their staff. Funding was the number one barrier facing private schools, whereas time was the greatest barrier to public schools. By comparison to private schools, public schools more often believed that the lack of educational programs (32% vs. 23%), lack of interest by staff (15% vs. 0%), lack of qualified instructors (27% vs. 13%), and lack of incentives (23% vs. 13%) were what hampered their staff from receiving the education they needed.

G. Athletic Health Care Staff

Several questions addressed the organizational structure and personnel involved in school athletic programs and the general structure of the school (Q33 - 38). Athletic health care teams ranged from a minimum staff of the athletic director, coaches and school nurse to teams additionally staffed with a school physician, athletic trainer, emergency medical technician and faculty manager. Fifteen schools reported that their athletic trainer had a license from the Commonwealth of Massachusetts, 9 had a certificate from the National Athletic Trainers Association (NATA), and 61 others had both a license from the Commonwealth and a certificate from NATA (Q34). In addition, 27 schools reported

that a person acting as an athletic trainer had "some other medical background." Twice as many (48% vs. 23%) large schools employed athletic trainers as compared to small schools (less than 500 students).

Most schools set minimum standards outlining responsibilities and tasks for different staff positions to prevent athletic injuries: 76 percent for athletic trainers, 71 percent for nurses or physician assistants, 65 percent inclusive of coaches at all levels, 60 percent for sports physicians, 55 percent for Emergency Medical Technicians and 39 percent for faculty managers (Q37 & Q38).

H. Insurance Coverage for Sports

Insurance for students was provided by 86 percent of the schools (Q5). Approximately nine percent of the schools offering insurance stated that they either provided it for football only or had a separate policy covering football. Six percent provided catastrophic insurance; 21 percent provided secondary or "rider" insurance to family policies; nine percent specifically mentioned private insurance agencies; and the remaining 55 percent provided "some form" of school or athletic insurance.

III. AREAS OF CONCERN

Based on the survey findings, the Task Force defined the following 15 areas of concern:

1. There is not 100 percent compliance with pre-participation physical examinations.
2. There is no minimum standard for pre-participation physical examinations used statewide.
3. Not all individuals performing pre-participation physical examinations are physicians.
4. The appropriate level of transportation for athletes with potential major trauma is not used in all schools.
5. A written medical release before return to play after a significant injury is not required in all schools.
6. Not all coaches have immediate access to first aid kits.
7. Not all teams have ready access to fluid replacement.
8. There is not total compliance with regulations about protective gear.
9. Injury records are not maintained at all schools.
10. A system to monitor and evaluate data about injuries is not in place in all Massachusetts schools.
11. Minimum standards outlining responsibilities and tasks to prevent injuries have not been set for physicians, athletic trainers, nurses, and coaches in all schools.
12. Not all individuals acting as athletic trainers are licensed by the Commonwealth of Massachusetts.
13. Injury prevention is not perceived as a high priority in all schools.
14. There is a recognized need for continuing coaching education.
15. There are barriers, including time constraints, funding, lack of educational programs, and lack of qualified instructors, to athletic health care staff receiving education.

IV. RECOMMENDATIONS

In response to the Areas of Concern identified in Chapter III the Task Force recommends the following:

1. There must be 100 percent compliance with regard to pre-participation physicals. All schools must require and receive pre-participation physical examination forms from all athletes.

2. The MIAA Sports Medical Questionnaire and Health Examination Form be used as the minimum statewide pre-participation physical examination form.

3. Pre-participation physical examinations be performed by qualified physicians preferably with training in Sports Medicine.

4. The MIAA recommends that "each school system must author and keep available a written procedure for an injury transport system." The Task Force recommends that the MIAA Sports Medical Committee expand upon its recommendation and provide specific guidelines for appropriate transport of various degrees of injuries.

5. All athletes receive a medical release from a physician subsequent to a time loss injury and prior to further participation in that sport. That the MIAA Return to Athletic Participation Form be used by all schools.

6. All coaches have ready access to a basic first aid kit at all practice and competition sites.

7. Fluid replacements be immediately accessible to every student athlete at all practice and competition sites.

8. Schools comply with protective gear regulations during all practices and competitions.

9. All school systems collect data on sports-related injuries.

10. Data on sports-related injuries be analyzed and evaluated for the purpose of monitoring trends and patterns. This system will provide the school personnel with information that will allow them to identify risk factors for sports injuries.

11. Each school system must set minimum standards outlining responsibilities and tasks that are geared toward ensuring prevention of sports injuries.

12. All individuals acting as athletic trainers be licensed by the Commonwealth of Massachusetts.

13. All schools must recognize injury prevention as a high priority.

14. The needs for continuing education of coaches be addressed by the Coaches Educational Subcommittee of the Massachusetts Sports Injury Prevention Task Force.

15. Barriers to coaches receiving education, including time constraints, funding, lack of educational programs and lack of qualified instructors, be addressed by the Coaches Educational Subcommittee of the Massachusetts Sports Injury Prevention Task Force.

See Chapter V for a summary of the Massachusetts Interscholastic Athletic Association (MIAA) standards and regulations related to sports injury prevention. Many of the recommendations made by the Task Force are written with reference to the MIAA standards, which are the current requirements or recommended practices to which schools participating in interscholastic competitions are held.

V. RELATIONSHIP OF MIAA STANDARDS WITH AREAS OF CONCERN

The Massachusetts Interscholastic Athletic Association (MIAA) is a non-profit, educational organization which exists to serve its 352 voluntarily-affiliated member high schools in promoting athletic contests among MIAA member schools. The MIAA sponsors approximately 250 post-season regional and state tournaments in 29 recognized activities for student athletes.

The approved regulations and guidelines of the Association have been developed to insure fairness of competition and to maintain a proper perspective on high school athletics. Membership in the MIAA requires allegiance to all MIAA rules. The promotion of good sportsmanship, a coaches' orientation program, the chemical health of the student athlete and injury prevention are Association priorities.

The following reflects specific regulations and guidelines of the MIAA that relate to the Areas of Concern identified in Chapter III:

Areas of Concern	MIAA Regulations and Guidelines
1. Pre-participation physical examinations.	It is mandated that "All students must pass a physical examination within one year before participating in any sport." Rule 30, pg. 32.[a]
2. Minimum standard for pre-participation physical examinations used statewide.	A recommended Sports Medical Questionnaire form is forwarded to all 352 schools. Mandatory use is under review. Pg. 72-73.[a]
3. Physical exams performed by qualified physicians.	It is mandated that "physical examinations must be performed by a duly registered physician." (MGL Ch. 71, 5.56) pg. 32.[a]
4. Use of appropriate levels of transportation for major trauma.	It is recommended that "each school author and keep available a written procedure for an injury transport system." Pg 41[a], pg.27.[b]

Areas of Concern	MIAA Regulations and Guidelines
5. Written medical release for return to play after significant injury.	It is mandated that "All athletes in all sports receive a medical release from a physician subsequent to any serious injury and prior to further participation in that sport." (MIAA Return to Participation Form is recommended) Pg. 41.[a]
6. Immediate access to first aid kits for all coaches.	It is recommended that schools "Always have available a full supply of first aid equipment." Pg. 19.[b]
7. Ready access to fluid replacement for all teams.	It is recommended that schools "Allow for many water (fluid) breaks," Pg. 15-16[b] and "Permit consumption of as much water as is desired." Pg. 23.[b]
8. Compliance with regulations about protective gear.	It is mandated that in order to be eligible to participate in MIAA interscholastic athletic contests protective gear must be worn by all participants. Pgs. 41-60.[a]
9. Maintenance of injury records.	It is recommended that "member schools furnish the MIAA Sports Medical Committee a copy of the athletic injury report..." Pg. 41[a] (Standard Accident Report Form is recommended).[b]
10. System to monitor and evaluate data about injuries.	MIAA Sports Medical Committee is the identified system which evaluates injury data and utilizes results. "That in an attempt to provide research and information, all member schools are asked to furnish the MIAA Sports Medical Committee a copy of the Athletic Injury Report completed by school personnel one week subsequent to each sport season." Pg. 41.[a]
11. Minimum standards outlining tasks and responsibilities for physicians, athletic trainers, nurses and coaches to prevent sports injuries.	The MIAA Constitution, Rules and Regulations, Coaches' Orientation Syllabus and Sports Medical Committee provide directives to member schools which go beyond minimum standards.
12. Licensure by the Commonwealth of all individuals acting as athletic trainers.	The MIAA and its sister educational associations are proponents of the Division of Local Mandates Report to the legislature (Nov. 1988) to amend Chapter 667 of the Acts of 1982.

Areas of Concern	MIAA Regulations and Guidelines
13. Perception of injury prevention as a high priority.	MIAA constitution establishes the priority and mandate for all member schools "to promote the health and safety of participants in interscholastic athletics." The MIAA Sports Medical Committee was established to address sports injury prevention which has been the focus of MIAA statewide sponsored sports medical symposia for several years. "Prevention of injuries is paramount." Pg. 22.[b]
14. Need for education for all athletic personnel.	It is recommended "that physicians, trainers and coaches receive sports medicine training," Pg. 41[a] and that all "coaches should have CPR/Basic first aid training." Pg. 15.[b]
15. Identified barriers to receiving education.	The MIAA Sports Medical Committee provides seasonal workshops for coaches, trainers and physicians at no expense to membership.

a. Rules and Regulations Governing Athletics, MIAA 1989.

b. MIAA Coaches' Orientation Syllabus.

For further information or to obtain copies of MIAA publications contact:

MIAA, 83 Cedar Street, Milford, Massachusetts 01757, telephone (508) 478-5641.

VI. DISCUSSION

The results of the Massachusetts Sports Injury Prevention Task Force survey point out that although the membership of the MIAA has set standards for injury prevention in interscholastic athletics, not all high schools currently meet these standards.

The recommendations of the Task Force provide a set of objectives toward which school athletic programs should target their sports program development. However, the Task Force recognizes that although schools may be supportive of these recommendations, there may be significant barriers to their implementation.

A long-term commitment is required to address the findings of this report. A process must be undertaken to enable schools to improve compliance with the recommendations, with the goal of reducing preventable sports injuries. This process might entail convening a multidisciplinary planning group of representatives from school systems, state and local agencies, local government, athletic trainers' and coaches' associations, the insurance industry, and sports medicine, among others. The task of this group would be to define technical assistance, education and resource needs of local school systems and to develop strategies to address them.

The current lack of school-specific sports injury data makes it difficult to target preventive measures and then to measure their impact. The design and implementation of a sports injury surveillance system will enable schools to target problem areas and use the data to support requests for additional resources and training. Currently, there is a successful model for statewide school-based injury surveillance in place in Utah. As a first step in sports injury data collection, this model should be considered for replication in a pilot project in Massachusetts.

Given the findings of this report, the next step will be to recruit local agencies and institutions to join in the development of a plan of action for implementing the recommendations of the Massachusetts Sports Injury Prevention Task Force.

APPENDIX A
TASK FORCE MEMBERSHIP

Membership in the Task Force is open to individuals and organizations committed to working toward the reduction of unnecessary injuries among student athletes. Task Force members include:

Marcia Anderson, Bridgewater State College
David Balch, MA Sec. Schools Athletic Dir. Assn.
Donna Bernhardt, AT, PT, MGH Institute of Health Professions
Stephen Black, LATC, PT, S.T.A.R.T, Inc.
Robert B. Burke, LATC, Cambridge Rindge and Latin High School
Denis Byrne, MD, SportsAid the Center for Sports Medicine, Malden Hospital
Thomas Collins, Division of Local Mandates
Catherine Cronin, Massachusetts Medical Society
John W. Cronin, Sports Medicine Merrimac Valley
Alison Dana, Childhood Injury Prevention Resource Center, Harvard School of Public Health
Joe Delauri, South Shore Sports Therapy
Paul Dubois, PhD, Health Physical Education and Recreation, Bridgewater State College
John F. Duff, MD, Massachusetts Medical Society
Lenny Finamore, LATC
Patricia L. Freeman, Beverly Sports Medicine
Jack Fultz, Boston Athletic Association
William N. Gaine, Massachusetts Interscholastic Athletic Association
Susan Gallagher, Childhood Injury Prevention Resource Center, Harvard School of Public Health
Sharon Gilligan, Sports Medicine Clinic, Children's Hospital
Rita Glassman, National Youth Sports Foundation for the Prevention of Athletic Injuries
Judith Gorbach, Adolescent Health, Mass. Department of Public Health
Patricia Gordon, New England Baptist Hospital
Cary Gray, LATC, Stewart Sports Medicine and Physical Therapy Center
Cheryl Haug-Simons, Student Services, Mass. Department of Education
Kathleen Helsing, Statewide Comprehensive Injury Prevention Program, Mass. Department of Public Health
Anne C. Kinsley, Massachusetts School Nurses Organization
Peter Krasnor, LATC, S.T.A.R.T., Inc.
Richard Lapchick, Northeastern University
Mary Leary, Primary Care Division, Mass. Department of Public Health
Stan Masalsky, Athletic Director, Canton High School
Katherine Messenger, Mass. Department of Public Health
Lyle Micheli, MD, Division of Sports Medicine, Children's Hospital
Phil Moresi, MA Coaches Association
Jim Narrigan,, thletic Trainer for the Bruins
Sylvia Neighbors, RPT, Postural Screening Program, Mass. Department of Public Health
Nancy O'Neil, MAPHERD Women's Athletics
Cheryl Oneschuk, RN
Tony Porter, MAPHERD Men's Athletics
Joseph Rice, LATC, SportsAid Center for Sports Medicine, Malden Hospital
John Richmond, MD, Orthopedic Surgery, Tufts New England Medical Center
Cynthia G. Rodgers, Statewide Comprehensive Injury Prevention Program, Mass. Department of Public Health

Phillip Rollins, Amherst Leisure Dept.
Daniel S. Rooks, ScD, Division of Sports Medicine, The Children's Hospital
Charles M. Rozanski, Department of Athletics, University of Lowell
Gloria Rudisch, MD, Child And School Health, Brookline Schools
Harriet Stern, New England Baptist Hospital
Jeff Stone, LATC, Natick High School
Bill Thierfelder, Precision Athletics
Beth Thomson, RN
Paul Torney, Governor's Committee on Physical Fitness and Sports
Paul Vinger, MD, Lexington Eye Associates
Jack White, Athletic Director, Reading Memorial High

Massachusetts
Sports Injury Prevention Task Force
High School Scholastic Athletic Program

SURVEY

October 1987

Please Return This Survey to:

Massachusetts Sports Injury Prevention Task Force
Post Office Box 10
Essex Station
Boston, MA 02112

This survey is being sent to Massachusetts high school athletic directors by the Massachusetts Sports Injury Prevention Task Force. The purpose of the survey is to assess the status of the health and injury prevention aspects of scholastic athletic programs. The results will be used to report and make recommendations concerning high school athletic programs to the Department of Education, the Department of Public Health and the state Legislature.

Surveys are strictly confidential. An identification number has been assigned to each survey to assure anonymity. No school will ever be identified by name. School athletic programs will be discussed in general terms according to school size and location within the state.

Please answer <u>all</u> of the questions. If you wish to comment on any questions or qualify your answer, use the space in the margins.

Thank you for your help.

The first set of questions concern requirements you have established for student participation in your school's athletic program?

Q-1. Do you require a physical exam/screening of all student participants in school athletic programs prior to participation? (CIRCLE ONE)

1. YES, ONLY INTERSCHOLASTIC
2. YES, ONLY INTRAMURAL
3. YES, BOTH
4. NO

Q-2. Do you use the Massachusetts Interscholastic Athletic Association (MIAA) standards for pre-season medical physical examinations? (CIRCLE ONE)

1. YES - USE THE MIAA FORMS
2. YES - USE OTHER FORMS (PLEASE SPECIFY) _____
3. NO - WHAT STANDARDS DO YOU USE? (PLEASE SPECIFY)_____

Q-3. Who performs the physical exam? (CIRCLE ALL THAT APPLY)

1. STUDENT'S PRIVATE PHYSICIAN
2. SCHOOL PHYSICIAN
3. SCHOOL NURSE PRACTITIONER/PHYSICIAN ASSISTANT
4. OTHER (PLEASE SPECIFY) _____
5. NOT APPLICABLE

Q-4. Do student athletes receive a physical exam/screening at any other time during sports seasons? (CIRCLE ONE)

1. YES (PLEASE SPECIFY)_____
2. NO

Q-5. Do you provide any insurance to your student athletes? (CIRCLE ONE)

1. YES (PLEASE SPECIFY) _____
2. NO

This section addresses procedures typically followed when an athlete is injured.

Q-6. How do your coaches call for emergency medical help at home athletic activity sites? (CHECK ALL THAT APPLY)

	Practices	Games
1. TELEPHONE (ATHLETIC OFFICE/CLINIC)		
2. TELEPHONE (AT PLAYSITE)		
3. RADIO (WALKIE-TALKIE)		
4. RUNNER - STUDENT/COACH		
5. OTHER (PLEASE SPECIFY) _____		

Q-7. Do you conduct a practice (mock drill) for your staff for responding to a "catastrophic" injury: defined as one with the potential to cause paralysis, loss of a body part or death? (CIRCLE ONE)

1. YES
2. NO

Q-8. PLEASE READ THE FOLLOWING CASE AND RESPOND TO THE QUESTION PROVIDED.

An athlete has injured his ankle during a soccer game sustaining a minor injury. You want him to get an X-ray so that you can be sure he does not have a fracture. You cannot reach his parents. How would you typically transport this athlete to get an X-ray? (CIRCLE ONE)

1. TRAINER'S AUTOMOBILE
2. COACH'S AUTOMOBILE
3. POLICE
4. AMBULANCE
5. ATHLETE'S FRIEND OR TEAMMATE
6. WOULD WAIT UNTIL PARENTS COULD BE REACHED
7. OTHER (PLEASE SPECIFY) _____

Q-9. PLEASE READ THE FOLLOWING CASE AND RESPOND TO THE QUESTION PROVIDED.

An athlete has been knocked unconscious, sustaining a major injury, after hitting heads with an opponent during a basketball game. She revives a minute or two later, but appears very disoriented, weak, dizzy and has a bad headache. How would this athlete typically be taken to the hospital? (CIRCLE ONE)

1. TRAINER'S AUTOMOBILE
2. COACH'S AUTOMOBILE
3. POLICE
4. AMBULANCE
5. ATHLETE'S FRIEND OR TEAMMATE
6. WOULD WAIT UNTIL PARENTS COULD BE REACHED
7. OTHER (PLEASE SPECIFY) _____

Q-10. PLEASE CONSIDER THE FOLLOWING CASE AND RESPOND TO THE QUESTIONS PROVIDED.

An athlete has sustained a relatively minor injury to her finger while playing volleyball. What do your coaches typically accept as permission to return to practice with that type of injury? What do your coaches typically accept as permission to return to competition? (CHECK ALL THAT APPLY)

	PRACTICE	COMPETITION
1. ATHLETE TELLS COACH SHE IS OK TO PLAY		
2. ATHLETE TELLS COACH PARENT SAYS SHE IS OK TO PLAY		
3. PARENT TELLS COACH SHE IS OK TO PLAY		
4. PARENT WRITES A NOTE TELLING COACH SHE IS OK TO PLAY		
5. COACH DECIDES SHE IS OK TO PLAY		
6. NURSE TELLS COACH SHE IS OK TO PLAY		
7. PHYSICIAN TELLS COACH SHE IS OK TO PLAY		
8. PHYSICIAN WRITES A NOTE TELLING COACH SHE IS OK TO PLAY.		
9. MIAA RETURN TO PARTICIPATION FORM		
10. OTHER (PLEASE SPECIFY)		

Q-11. PLEASE CONSIDER THE FOLLOWING CASE AND RESPOND TO THE QUESTIONS PROVIDED.

An athlete sustained a knee injury playing football in the fall. He had surgery to repair torn cartilage. What do your coaches typically accept as permission to return to practice with that type of injury? What do your coaches typically accept as permission to return to competition? (CHECK ALL THAT APPLY)

	PRACTICE	COMPETITION
1. ATHLETE TELLS COACH SHE IS OK TO PLAY	_____	_____
2. ATHLETE TELLS COACH PARENT SAYS SHE IS OK TO PLAY	_____	_____
3. PARENT TELLS COACH SHE IS OK TO PLAY	_____	_____
4. PARENT WRITES A NOTE TELLING COACH SHE IS OK TO PLAY	_____	_____
5. COACH DECIDES SHE IS OK TO PLAY	_____	_____
6. NURSE TELLS COACH SHE IS OK TO PLAY	_____	_____
7. PHYSICIAN TELLS COACH SHE IS OK TO PLAY	_____	_____
8. PHYSICIAN WRITES A NOTE TELLING COACH SHE IS OK TO PLAY.	_____	_____
9. MIAA RETURN TO PARTICIPATION FORM	_____	_____
10. OTHER (PLEASE SPECIFY) _____	_____	_____

The following questions address your perceptions regarding the relative importance of the prevention of sports injuries.

Q-12. How would you rate the priority given to the prevention of athletic injuries in your school's sports program? (CIRCLE ONE)

VERY GREAT — VERY LITTLE

1 2 3 4 5 6 7

Q-13. Compared to other objectives for your school's athletic program (i.e., fair play), how much emphasis is placed on minimizing the occurrences of sports-related injury? (CIRCLE ONE)

VERY HIGH — VERY LOW

1 2 3 4 5 6 7

Q-14. In your school's sports program, how much emphasis is placed on returning an athlete to active team play after injury? (CIRCLE ONE)

VERY HIGH — VERY LOW

1 2 3 4 5 6 7

We would like to know how sports injuries are documented at your school.

Q-15. Are athletic injury records maintained at your school? (CIRCLE ONE)

1. YES
2. NO

Q-16. If athletic injury records are maintained, who from your athletic health care staff is in charge of maintaining these records? (CIRCLE ONE)

1. ATHLETIC DIRECTOR
2. ATHLETIC TRAINER
3. HEAD COACHES - PAID
4. ASSISTANT COACHES - PAID
5. ALL OTHER COACHES
6. SUPERVISING SPORTS PHYSICIAN
7. EMERGENCY MEDICAL TECHNICIAN (EMT)
8. SCHOOL NURSE PRACTITIONER/PHYSICIAN ASSISTANT
9. FACULTY MANAGER
10. OTHER (PLEASE SPECIFY) _____
11. NOT APPLICABLE

Q-17. If athletic injury records are maintained, are these records used in evaluating sports injuries? (CIRCLE ONE)

1. YES (PLEASE SPECIFY) _____
2. NO
3. NOT APPLICABLE

This section concerns equipment and facilities available to your school's athletic program.

Q-18. Does each coach have an emergency first aid kit immediately accessible for use whenever actively involved with his/her team? (CIRCLE ONE)

1. YES
2. NO

Q-19. Does this first aid kit minimally include? (CIRCLE ALL THAT APPLY)

1. STERILE DRESSINGS AND BANDAGES FOR WOUND CARE
2. SPLINTS FOR FRACTURE IMMOBILIZATION
3. CERVICAL COLLARS FOR NECK IMMOBILIZATION
4. BLANKET FOR SHOCK TREATMENT
5. BITE BLOCK AND AIRWAY
6. OTHER (PLEASE SPECIFY) _____
7. NOT APPLICABLE

Q-20. What do you typically use for cold therapy? (CIRCLE ONE)

1. CHEMICAL COLD PACKS
2. ICE IN PLASTIC BAGS
3. BOTH
4. OTHER (PLEASE SPECIFY) _____

Q-21. What rehabilitation equipment is available to the athletic program? (CIRCLE ALL THAT APPLY)

1. TAPING/TREATMENT TABLE(S) - HOW MANY _____
2. THERAPEUTIC WHIRLPOOLS(S) - HOW MANY _____
3. SPINE BOARD WITH STRAPS
4. HYDROCOLLATOR UNIT
5. ULTRASOUND UNIT
6. ELECTRICAL MUSCLE STIMULATOR
7. REFRIGERATOR
8. ICE MACHINE
9. ORTHOTRON
10. STATIONARY BICYCLE
11. FITRON/ERGOMETER
12. NONE
13. OTHER REHABILITATION EQUIPMENT (PLEASE SPECIFY) _____

Q-22. What types of fluid replacement are readily available to athletic teams at practices? (CIRCLE ALL THAT APPLY)

1. WATER COOLERS/CUPS
2. WATER BOTTLES
3. WATER FOUNTAIN
4. "GATORADE" TYPE ELECTROLYTE FLUID REPLACEMENT
5. NOT ALL TEAMS HAVE READY ACCESS TO FLUID REPLACEMENT
6. OTHER (PLEASE SPECIFY) _____

Q-23. Do you use a "weight room" area for pre-season conditioning? (CIRCLE ONE)

1. YES
2. NO

Q-24. Is the "weight room" used by: (CIRCLE ONE)

1. GIRLS
2. BOYS
3. BOTH
4. NOT APPLICABLE

Q-25. Do you have an athletic training facility/clinic? (CIRCLE ONE)

1. YES
2. NO

Q-26. Is the clinic equally accessible to girls and boys? (CIRCLE ONE)

1. YES
2. NO
3. NOT APPLICABLE

Q-27. Do you supply knee guards to any athletes? (CIRCLE ONE)

1. YES (PLEASE SPECIFY) _____
2. NO

Q-28. Do you require mouthguards for any of the following sports? (CIRCLE ALL THAT APPLY)

1. SOCCER
2. WRESTLING
3. BASEBALL
4. FOOTBALL
5. BASKETBALL
6. FENCING
7. FIELD HOCKEY
8. ICE HOCKEY
9. LACROSSE
10. OTHER (PLEASE SPECIFY) _____
11. NONE

Q-29. Do you require face and eye protection for any of the following sports? (CIRCLE ALL THAT APPLY)

1. SOCCER
2. WRESTLING
3. BASEBALL
4. FOOTBALL
5. BASKETBALL
6. FENCING
7. FIELD HOCKEY
8. ICE HOCKEY
9. LACROSSE
10. OTHER (PLEASE SPECIFY) _____
11. NONE

An important purpose of this study is to learn more about the training needs of school athletic personnel.

Q-30. Which of the following information, training and/or skills does your athletic health care staff need? (PLEASE CIRCLE ALL THAT APPLY. THEN, BEGINNING WITH #1 THE GREATEST NEED, RANK ORDER YOUR RESPONSES.)

		RANK ORDER
1.	BASIC PRINCIPLES OF INJURY PREVENTION	_____
2.	BASIC PRINCIPLES OF INJURY REHABILITATION	_____
3.	KNOWLEDGE OF LEGAL ISSUES OF CARING FOR AN INJURED ATHLETE	_____
4.	RECOGNIZING/EVALUATING ATHLETIC INJURIES	_____
5.	PROPER STRENGTH TRAINING AND CONDITIONING FOR ATHLETES	_____
6.	HOW TO CHOOSE ATHLETIC EQUIPMENT	_____
7.	HOW TO PROPERLY FIT ATHLETIC EQUIPMENT	_____
8.	FUNDAMENTALS OF BANDAGING AND TAPING ATHLETIC INJURIES	_____
9.	DESIGN AND SETUP OF ATHLETIC TRAINING ROOM	_____
10.	EMERGENCY PREPAREDNESS/CARING FOR ATHLETIC INJURIES	_____
11.	ATHLETIC INJURY RECORD KEEPING	_____
12.	OTHER (PLEASE SPECIFY) _____	_____

Q-31. From your point of view, what barriers could prevent your staff from obtaining the information, training and/or skills you circled in the last question? (Q-30) (CIRCLE ALL THAT APPLY)

1. FUNDING
2. TIME CONSTRAINTS
3. LACK OF EDUCATIONAL MATERIALS
4. LACK OF TRAINING PROGRAMS
5. LACK OF INTEREST BY STAFF
6. LACK OF QUALIFIED INSTRUCTORS
7. LACK OF INCENTIVES
8. NO CONTINUING EDUCATION REQUIREMENTS
9. OTHER (PLEASE SPECIFY) _____
10. NO BARRIERS

The next set of questions concern the organizational structure and personnel involved in your after-school athletic program.

Q-32. Following is a list of staff positions that your school might have as part of your athletic health care team. For each position, indicate the number of full-time equivalents (FTE) your school has. (ENTER "0" IF THERE IS NO PARTICULAR POSITION TYPE, or .5 if the POSITION IS HALF-TIME.)

	FTE
1. ATHLETIC DIRECTOR	___
2. ATHLETIC TRAINER	___
3. HEAD COACHES - PAID	___
4. ASSISTANT COACHES - PAID	___
5. ALL OTHER COACHES	___
6. SPORTS PHYSICIAN	___
7. EMERGENCY MEDICAL TECHNICIAN (EMT)	___
8. SCHOOL NURSE PRACTITIONER/PHYSICIAN ASSISTANT	___
9. FACULTY MANAGER	___
10. OTHER (PLEASE SPECIFY) _____	___

Q-33. Using the following key, indicate the type of training your after-school sports staff (listed in question 2A-2D) have received to date. If there is more than one person with the same position, consider only the person with the most training. (IF YOU DO NOT HAVE A PARTICULAR POSITION TYPE, CIRCLE "12" ON THE LINE THAT CORRESPONDS TO THAT QUESTION.)

KEY:
1. CPR TRAINING
2. FIRST AID TRAINING
3. COACHING COURSES/WORKSHOPS
4. ATHLETIC TRAINING COURSES/WORKSHOPS
5. EMT TRAINING
6. BACHELOR'S DEGREE IN PHYSICAL EDUCATION
7. OTHER BACHELOR'S DEGREE
8. MASTER'S DEGREE IN PHYSICAL EDUCATION
9. OTHER MASTER'S DEGREE
10. OTHER
11. NONE
12. NOT APPLICABLE/NO STAFF
13. DON'T KNOW

(CIRCLE ALL THAT APPLY)

1. ATHLETIC DIRECTOR	1	2	3	4	5	6	7	8	9	10	11	12	13
2. ATHLETIC TRAINER	1	2	3	4	5	6	7	8	9	10	11	12	13
3. SPORTS PHYSICIAN	1	2	3	4	5	6	7	8	9	10	11	12	13
4. EMT	1	2	3	4	5	6	7	8	9	10	11	12	13
5. SCHOOL NURSE PRACTITIONER/ PHYSICIAN ASSISTANT	1	2	3	4	5	6	7	8	9	10	11	12	13
6. FACULTY MANAGER	1	2	3	4	5	6	7	8	9	10	11	12	13
7. HEAD COACH-FOOTBALL	1	2	3	4	5	6	7	8	9	10	11	12	13
8. ASSISTANT COACH-FOOTBALL	1	2	3	4	5	6	7	8	9	10	11	12	13
9. HEAD COACH-CROSS COUNTRY	1	2	3	4	5	6	7	8	9	10	11	12	13
10. ASSISTANT COACH-CROSS COUNTRY	1	2	3	4	5	6	7	8	9	10	11	12	13
11. HEAD COACH-FIELD HOCKEY	1	2	3	4	5	6	7	8	9	10	11	12	13
12. ASSISTANT COACH-FIELD HOCKEY	1	2	3	4	5	6	7	8	9	10	11	12	13

Q-34. Does your athletic trainer have: (CIRCLE ONE)

1. A LICENSE FROM THE COMMONWEALTH OF MASSACHUSETTS
2. A CERTIFICATION FROM THE NATIONAL ATHLETIC TRAINERS ASSOCIATION
3. BOTH A LICENSE AND A CERTIFICATION FROM THE ATHLETIC TRAINERS ASSOCIATION.
4. SOME OTHER MEDICAL BACKGROUND (PLEASE SPECIFY) _____
5. NONE OF THE ABOVE.
6. DO NOT HAVE AN ATHLETIC TRAINER.

Q-35. Is there a specialist who provides strength and conditioning instruction? (CIRCLE ONE)

1. YES - IF YES, WHAT PREREQUISITE QUALIFICATIONS ARE NEEDED FOR THE POSITION? _____
2. NO

Q-36. (From what you know,) How many of your athletic health care staff belong to the following organizations? (IF NONE, ENTER 0)

	How Many Staff
1. AAHPERD - AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, RECREATION AND DANCE	____
2. MAHPERD - MASSACHUSETTS ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, RECREATION AND DANCE	____
3. ATOM - ATHLETIC TRAINERS OF MASSACHUSETTS	____
4. NATA - NATIONAL ATHLETIC TRAINER'S ASSOCIATION	____
5. MSSADA - MASSACHUSETTS SECONDARY SCHOOLS ATHLETIC DIRECTORS ASSOCIATION	____
6. MSNO - MASSACHUSETTS SCHOOL NURSES ORGANIZATION	____
7. ASHA - AMERICAN SCHOOL HEALTH ASSOCIATION	____
8. MSCA - MASSACHUSETTS STATE COACHES ASSOCIATION	____
9. MDGWS - MASSACHUSETTS DIVISION OF GIRLS' AND WOMEN'S SPORTS	____
10. MHSACA - MASSACHUSETTS HIGH SCHOOL ATHLETIC COACHES ASSOCIATION	____
11. NHSACA NATIONAL HIGH SCHOOL ATHLETIC COACHES ASSOCIATION	____
12. NFIACA - NATIONAL FEDERATION INTERSCHOLASTIC ATHLETIC COACHES ASSOCIATION	____
13. OTHER (PLEASE SPECIFY) _____	

Q-37. Does your school have minimum standards outlining responsibilities and tasks to prevent athletic injuries for the following positions? (CIRCLE ONE NUMBER FOR EACH POSITION)

	YES	NO	N/A	DON'T KNOW
1. ATHLETIC TRAINER	1	2	3	4
2. HEAD COACHES - PAID	1	2	3	4
3. ASSISTANT COACHES - PAID	1	2	3	4
4. ALL OTHER COACHES	1	2	3	4
5. FACULTY MANAGER	1	2	3	4
6. OTHER (PLEASE SPECIFY) _____	1	2	3	4

Q-38. Does your school have minimum standards outlining responsibilities and tasks to for athletic injuries for the following positions? (CIRCLE ONE NUMBER OF EACH POSITION)

	YES	NO	N/A	DON'T KNOW
1. SPORTS PHYSICIAN	1	2	3	4
2. EMT	1	2	3	4
3. SCHOOL NURSE PRACTITIONER/ PHYSICIAN ASSISTANT	1	2	3	4
4. OTHER (PLEASE SPECIFY) _____	1	2	3	4

Finally, we would like to ask some questions about your school to help interpret the results.

Q-39. How many students are enrolled in your school?

Boys _____ Girls _____

Q-40. How many students are enrolled in your interscholastic school sports program?

Boys _____ Girls _____

Q-41. Which of the following sports are offered in your interscholastic program? (PLEASE CHECK ALL THAT APPLY)

	BOYS	GIRLS			BOYS	GIRLS	
1.	___	___	BASEBALL	10.	___	___	SKIING
2.	___	___	BASKETBALL	11.	___	___	SPRING TRACK
3.	___	___	CROSS COUNTRY	12.	___	___	SOCCER
4.	___	___	FOOTBALL	13.	___	___	SWIMMING/DIVING
5.	___	___	GOLF	14.	___	___	TENNIS
6.	___	___	GYMNASTICS	15.	___	___	VOLLEYBALL
7.	___	___	FIELD HOCKEY	16.	___	___	WRESTLING
8.	___	___	ICE HOCKEY	17.	___	___	WINTER TRACK
9.	___	___	LACROSSE	18.	___	___	SOFTBALL

Q-42. How many students are enrolled in your intramural school sports programs?

Boys _____ Girls _____ Not Applicable _____

Q-43. Which of the following sports are offered in your intramural program? (PLEASE CHECK ALL THAT APPLY)

	BOYS	GIRLS			BOYS	GIRLS	
1.	___	___	BASEBALL	10.	___	___	SKIING
2.	___	___	BASKETBALL	11.	___	___	SPRING TRACK
3.	___	___	CROSS COUNTRY	12.	___	___	SOCCER
4.	___	___	FOOTBALL	13.	___	___	SWIMMING/DIVING
5.	___	___	GOLF	14.	___	___	TENNIS
6.	___	___	GYMNASTICS	15.	___	___	VOLLEYBALL
7.	___	___	FIELD HOCKEY	16.	___	___	WRESTLING
8.	___	___	ICE HOCKEY	17.	___	___	WINTER TRACK
9.	___	___	LACROSSE	18.	___	___	SOFTBALL

Q-44. For each of the following items, please indicate what is the approximate amount and source of funds spent annually by your school. (PLEASE WRITE IN THE DOLLAR AMOUNT AND CHECK ALL SOURCES OF FUNDS THAT APPLY)

		SOURCES OF FUNDS		
	DOLLAR AMOUNT	ATHLETIC DEPT.	P.E. DEPT.	GENERAL SCHOOL FUNDS
1. SALARIES				
• ATHLETIC DIRECTOR	_____	___	___	___
• ATHLETIC TRAINER	_____	___	___	___
• EMT	_____	___	___	___
• NURSE	_____	___	___	___
• SPORTS PHYSICIAN	_____	___	___	___
2. CAPITAL IMPROVEMENTS	_____	___	___	___
3. CONTINUING EDUCATION	_____	___	___	___
4. FIRST AID SUPPLIES	_____	___	___	___
5. PROTECTIVE EQUIPMENT	_____	___	___	___
6. REHABILITATIVE EQUIPMENT	_____	___	___	___
7. REPAIR AND MAINTENANCE	_____	___	___	___
8. OTHER (PLEASE SPECIFY)				
_____	_____	___	___	___

- Please indicate if you would like a copy of the survey results.

YES ___ NO ___

- Please indicate if you would like a Resource Directory (currently being assembled by the Task Force) of state and national programs that address adolescent sports injury prevention.

YES ___ NO ___

Thank you for your time and effort.

APPENDIX C

METHODOLOGY

The survey items were developed by a subcommittee of the Task Force. The survey was then pilot tested by 20 high school athletic directors of Vermont, Maine and New Hampshire during August 1987. Task Force members provided additional feedback on the survey, and revisions were made. A brief cover letter was provided which described the Task Force, the intent of the survey and whom to contact in case of questions. Surveys were mailed to 291 public high school athletic directors in October 1987, and 54 private high schools in January 1988. All surveys were to be returned within three weeks. Surveys were only identifiable by number and complete anonymity was guaranteed to all high schools. A letter was also sent to each high school principal to make them aware of the survey.

In January 1988 a second survey was mailed to the 93 public high schools, and in February 1988 to the 33 private high schools, which had yet to respond. Phone calls were also made to the remaining public high schools encouraging them to return the survey. In all 246 athletic directors from 297 public and 54 private schools responded to the survey. No further correspondence was initiated between the Task Force and the schools after March 1988 when data coding, entry and analysis began.

Data entry and transmission for the survey were conducted by the Office of Statistics and Evaluation of the Bureau of Parent, Child and Adolescent Health, Massachusetts Department of Public Health, while the Task Force was responsible for the majority of data analysis. The results of the survey reflect the comprehension, attitudes and perception of the athletic directors providing the information.

Several questions presented particular problems to respondents. Two questions (Q8 and Q9) required the respondents to "circle one" answer, yet

many circled more than one. In those cases, the most emergent response was chosen (e.g., police over coaches car, coaches car over parents). Particularly problematic questions concerned the concept of full-time equivalents (Q32), the type of training staff received (Q33) and the approximate amount and sources of funds spent annually by schools (Q44). It was generally believed that these questions were too confusing to yield accurate data, and therefore have not been reported on in this document.

APPENDIX D

REFERENCES

1. Consumer Product Safety Commission. Overview of Sports Related Injuries to Persons 5-14. December 1981.

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